

Case Report Rapport de cas

Successful management of hydrallantois in a Standardbred mare at term resulting in the birth of a live foal

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Abstract — A 6-year-old Standardbred mare was presented at 339 days of gestation for investigation of abnormal abdominal distension and ventral edema. Transrectal palpation and ultrasound examination revealed the uterus to be enlarged with an excessive volume of fetal fluid, characteristic of hydrops. Gradual transcervical drainage of 55 L of allantoic fluid over 45 minutes, with concurrent intravenous fluid therapy followed by assisted vaginal delivery, resulted in the birth of a live foal with long-term survival. The birth and long-term survival of a foal from a mare with hydrallantois at term has not been previously reported in horses. However, this report demonstrates that successful outcome for both mare and foal may be achieved in a mare at term with hydrallantois.

Résumé — Gestion réussie de l'hydrallantois chez une jument Standardbred à terme donnant lieu à la naissance d'un poulain vivant. Une jument Standardbred âgée de 6 ans a été présentée à 339 jours de gestation pour investiguer une distension abdominale anormale et un œdème ventral. La palpation transrectale et l'échographie ont révélé que l'utérus était enflé en raison d'un volume excessif de liquide fœtal, ce qui est caractéristique de l'hydrops fœtal. Un drainage transcervical graduel de 55 L de liquide allantoïdien pendant plus de 45 minutes et une fluidothérapie par intraveineuse suivis d'une mise bas vaginale assistée ont donné lieu à la naissance d'un poulain vivant avec survie à long terme. La naissance et la survie à long terme d'un poulain provenant d'une jument atteinte de l'hydrallantois à terme n'avaient pas été précédemment signalées chez les chevaux. Cependant, des résultats fructueux pour la jument et le poulain peuvent être obtenus chez une jument atteinte d'hydrallantois à terme.

(Traduit par Isabelle Vallières)

Can Vet J 2019;60:495–501

Introduction

Hydrops conditions of the equine placenta are rare, with hydrallantois more frequently reported than hydramnion (1–3). Roberts (4) reported hydrallantois to account for 90% of hydrops conditions in large animals, with hydramnios accounting for 10%.

The etiology and pathophysiology of hydrops conditions remain poorly understood. Proposed etiologies for hydrallantois include placental dysfunction possibly due to impaired chorionic ion pumps (5) and/or placentitis (6); the latter particularly due to leptospiral infections (7,8). In cattle, hydrallantois manifests

with a high incidence of fetal hydronephrosis (9), which does not appear to be the case in equines. Heritability has also been suggested, with a possible breed predilection in draft horses (1). In addition, abnormal fetal deglutition because of fetal head anomaly has been proposed as another cause, although this explanation has been rejected by some authors (10). Consistent descriptions of placental histopathological changes have not been reported in cases of hydrops: findings of placentitis are not consistent, or unique to hydrops conditions (5–8,11).

The usual presentation of hydrallantois is a sudden increase in allantoic fluid leading to marked abdominal distension over a few days (12), most commonly between 6 and 10.5 mo of gestation (2). The increase in fluid volume is often reported to be dramatic and measurable daily; Diel de Amorim et al (8) reported increases in abdominal circumference of > 4 cm up to 9 cm per day.

Hydrops is typically a medical emergency due to risk of progression to respiratory distress, difficulty ambulating, and in extreme cases, prepubic tendon or abdominal wall rupture (8,12–14). The prognosis for hydrallantois and hydramnion is guarded to poor with respect to a favorable pregnancy outcome or even a full-term gestation (12). This case report is unique as it describes hydrallantois in a mare that was diagnosed at term, and was successfully managed, resulting in a live filly, which survived long-term.

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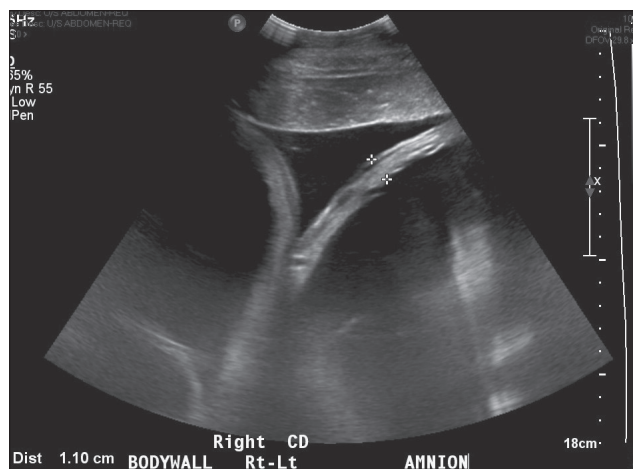


Figure 1. Transabdominal ultrasound image showing thickened amnion (1.1 cm).

Case description

A 6-year-old 685-kg Standardbred mare was presented at 339 d of gestation for investigation of increased abdominal distension of unknown duration, and progressive ventral edema over the past 24 h. Wax had reportedly appeared at the tips of the teats 4 d before presentation. There was no history of colic, respiratory distress, difficulty ambulating, or mammary or vulvar abnormalities. The mare had produced 1 foal 3 y ago without complication. The mare's vaccination status was up-to-date with core vaccinations, following American Association of Equine Practitioners' (AAEP) guidelines (15). She had also reportedly been vaccinated against equine herpesvirus-1 and *Leptospira* within the month before presentation.

On presentation, the mare was bright, alert, and responsive and had normal vital signs. The abdomen (circumference: 107.5 cm) was subjectively determined to be abnormally increased for a mare at term. Moderate ventral edema and mild mammary gland development were evident, and wax was present on both teats. Mammary secretions were grossly normal; calcium (Foil Watch; CHEMetrics, Midland, Virginia, USA) and pH (Pehanon pH strips; Electron Microscopy Sciences, Hatfield, Pennsylvania, USA) levels were determined to be 350 ppm and 7.0, respectively. There was marked laxity of the tail-head ligaments. Transrectal palpation revealed an abnormally enlarged uterus with a distended and taut consistency, extending dorsal and caudal to the pelvic brim. The fetus was only intermittently palpable upon ballotement.

Transabdominal ultrasound examination revealed a fetus with normal activity and heart rate of 75 beats/min (bpm) [reference interval (RI): 68 to 83 bpm] (16). The combined utero placental thickness at the cervical star was measured and ranged between 9.3 and 10.8 mm (reference value: < 12 mm) (17,18). There was no evidence of placental separation. Transrectal and transabdominal ultrasound examination revealed the amnion to be thickened at 1.1 cm (Figure 1). The fetus was not visualized transrectally and the allantoic fluid depth exceeded 15 cm. Transabdominally, allantoic fluid depth exceeded 18 cm at mid-abdomen (cranial quadrant) and craniad to the udder (caudal

Table 1. Fluid composition of the amniotic and allantoic fluids at the time of fetal extraction.

Fluid composition	Amniotic fluid	Allantoic fluid
Sodium (mEq/L)	135	123
Potassium (mEq/L)	7.3	8.8
Chloride (mEq/L)	104	105
Total protein (g/L)	2.0	2.0
Creatinine (μ mol/L)	981	2952

quadrant). Normal mean allantoic fluid depth in late gestation (> 330 d) mares is reported as 13.4 ± 4.4 cm (14,19). The dorsal extent of the allantoic cavity was not visualized and so the allantoic fluid depth appeared to exceed 18 cm by a substantial amount. Collectively, these findings supported a presumptive diagnosis of hydrallantois.

Vaginoscopy revealed a closed cervix, which was normal in appearance. Complete blood (cell) count (CBC), chemistry panel, fibrinogen, and serum amyloid A were within normal limits, giving no evidence of placentitis. A microscopic agglutination test for *Leptospira* yielded antibody titers of 400 for *L. autumnalis*, *L. Bratislava*, and *L. pomona*. Titers for other serovars were < 100. *Leptospira* polymerase chain reaction (PCR) on serum was negative. Creatine kinase and aspartate amino transferase were within normal limits, suggesting the absence of muscle damage due to potential body wall tear. The mare was monitored closely for signs of first stage labor, and serial measurements of abdominal circumference were performed every 6 h over the next 24 h. There was no significant increase in abdominal circumference.

The following day, vaginal examination confirmed dilation of the cervix and the demise of the cervical mucus plug. No other signs of first stage labor were observed. Fetal heart rate remained within normal limits at 73 bpm. Fluid depth and mammary secretions were not re-evaluated as gradual fetal fluid drainage with concurrent intravenous fluid therapy and assisted vaginal delivery of the foal were elected. The aim was to facilitate a more controlled fluid drainage and fluid replacement than would occur if the mare underwent parturition naturally. The mare was sedated with xylazine (Anased; Akorn Animal Health, Lake Forest, Illinois, USA), 0.3 mg/kg body weight (BW), IV; the tail was wrapped, and the perineum was cleaned thoroughly. Bolus intravenous fluid therapy was administered before and throughout the procedure; Hartmann's solution (Vetivex Hartmann's Solution; Dechra, Overland Park, Kansas, USA), at approximately 50 mL/kg BW (27 L) was administered starting before and continuing throughout the drainage. The mare's heart rate and rhythm were monitored at 5-minute intervals throughout the procedure and remained stable (44 to 48 bpm). An initial indirect measurement (tail cuff) of systolic and diastolic blood pressure was 111/59 mmHg (mean: 74 mmHg). A 28 F thoracic (sharp tip) trocar (Argyle 41-cm Trocar Thoracic Catheter; Tyco Healthcare, Princeton, New Jersey, USA) was inserted through the dilated cervix to penetrate the chorioallantoic membrane. The stylet was removed to allow controlled drainage of 55 L of allantoic fluid over 45 min. Fetal activity and position relative to the birth canal were monitored per vaginam throughout the drainage procedure. Increasing fetal activity was interpreted as



Figure 2. The mare showed marked ventral edema after transcervical drainage of allantoic fluid and fetal extraction.

a potential sign of fetal stress so this, along with the fact that enough allantoic fluid had been drained to enable the foal to be reached, prompted the decision to deliver the foal. The amnion felt thickened subjectively before fetal extraction. The foal, in anterior presentation, dorso-sacral position, and normal posture, was delivered with moderate assistance. This occurred about 15 min after initiation of assistance, and 1 h after commencement of allantoic fluid drainage. Approximately 20 L of allantoic fluid were expelled with delivery of the foal (total allantoic fluids estimated at 75 L). Normal volumes of allantoic fluid at term are reported to range from 8 to 20 L (4,20). Minimal abdominal contractions were noted throughout the delivery. The composition of allantoic and amniotic fluid samples obtained at the time of parturition was determined (Table 1), with the aim of providing future reference of hydropsical fetal fluid composition.

Shortly after the delivery of the foal, the mare underwent a brief episode of agitation, muscle fasciculation, and sternal recumbency. She became tachycardic (70 bpm), tachypneic (40 breaths/min), and had pale mucous membranes. An IV bolus of hypertonic saline (7.2%) at 2 mL/kg BW (1.5 L) was followed by an IV bolus of Hartmann's fluids (Vetivex Hartmann's Solution; Dechra), 20 mL/kg BW (15 L). The mare's clinical status improved rapidly: mucous membrane color and heart rate returned to normal (44 bpm) and blood pressure measured 159/119 mmHg (mean: 131 mmHg). Given the high risk of retained placenta in hydrops cases (12,14), prophylactic antimicrobial treatment was started with potassium penicillin (Buffered penicillin G potassium for injection; Sandoz, Princeton, New Jersey, USA), 22 000 IU/kg BW, IV, q6h, and gentamicin (GentaFuse; Henry Schein Animal Health, Dublin, Ohio, USA), 6.6 mg/kg BW, IV, q24h. Flunixin meglumine (Flunixinject; Henry Schein Animal Health), 1.1 mg/kg BW, IV, q12h was administered as an analgesic and anti-inflammatory agent. Oxytocin (Oxoject; Henry Schein Animal Health), 5I U, IM, q6h, was also administered. Abdominal support (belly band) was immediately applied to the pendulous abdomen, due to the severe degree of ventral edema that was apparent after fetal

extraction (Figure 2). The mare's clinical parameters were indicative of normovolemia by 12 h. Fetal membranes were retained for approximately 10 h before being passed intact. Uterine lavages with 15 L sterile Hartmann's (Vetivex Hartmann's Solution; Dechra) twice daily were initiated.

Forty-eight hours post-partum, the mare became febrile, dull, and inappetent. The hemogram revealed a profound leukopenia with a total leukocyte count of 1500 cells/ μ L (RI: 5200 to 10 100 cells/ μ L), and neutropenia (400 cells/ μ L, RI: 2700 to 6600 cells/ μ L) with a left shift (300 cells/ μ L band neutrophils, RI: 0 to 100 cells/ μ L) and mild toxic changes. Transabdominal ultrasound examination revealed a moderate amount of echogenic fluid within the uterine lumen. Twice daily uterine lavages were continued. Prophylactic digital cryotherapy was applied to help prevent laminitis (21). Metronidazole (Metronidazole Tablets USP 500 mg; Unichem Pharmaceuticals, Hasbrouk Heights, New Jersey, USA), 30 mg/kg BW, per rectum, q8h, was added to the antimicrobial regimen due to slow clinical improvement and a concern of colitis based on the use of antibiotics, the development of soft manure, fever, inappetence, neutropenia, left shift, and toxic changes in neutrophils. These abnormalities were still largely attributed to metritis. Uterine culture was not performed due to the time interval between submission and results and the additional cost. The mare's demeanor and appetite improved significantly over the next 24 h. Uterine lavages performed for the next 3 d were subsequently discontinued based upon clinical improvement. Oxytocin and antimicrobial therapy were discontinued 7 d post-partum, following complete resolution of clinical signs and blood abnormalities. The mare remained hospitalized due to complications with the foal and remained bright and appetent with normal vital signs until she was discharged.

Shortly after birth, the filly was alert and exhibited normal vital parameters (temperature: 37.7°C, pulse: 110 bpm, respiratory rate: 44 breaths/min) but presented signs of immaturity (floppy ears, silky hair coat, marked tendon laxity). The birth weight was 54 kg. The filly did not stand within an appropriate amount of time after birth and lacked a suckle reflex. A hemogram 18 h after birth revealed a total leukocyte count of 6200 cells/ μ L (RR: 5200 to 10 000 cells/ μ L) with an immature neutrophilia (300/ μ L, RR: 0.0 to 100 cells/ μ L), toxic changes and lymphopenia (700 cells/ μ L, RR: 1200 to 4900 cells/ μ L). The filly was treated with intravenous broad-spectrum antimicrobials, fluid therapy, plasma, intramuscular vitamin E and selenium, and intranasal oxygen. She initially improved but then developed an acute uroabdomen on day 2, diagnosed on transabdominal ultrasound. Blood biochemistry, including electrolytes, was consistent with uroperitoneum. There was no evidence of primary renal disease based on blood analysis or imaging. Upon laparotomy, a ruptured, necrotic urachus was identified; its attachment to the bladder trigone was torn, causing urine leakage. Necrotic bladder tissue was present, necessitating resection of 25% of the bladder. The urachus and the umbilical structures were removed without complication. Uroabdomen developed again 2 d after surgery and a second laparotomy revealed leakage through the previous bladder incision and associated necrotic tissue. In total, 50% of the bladder

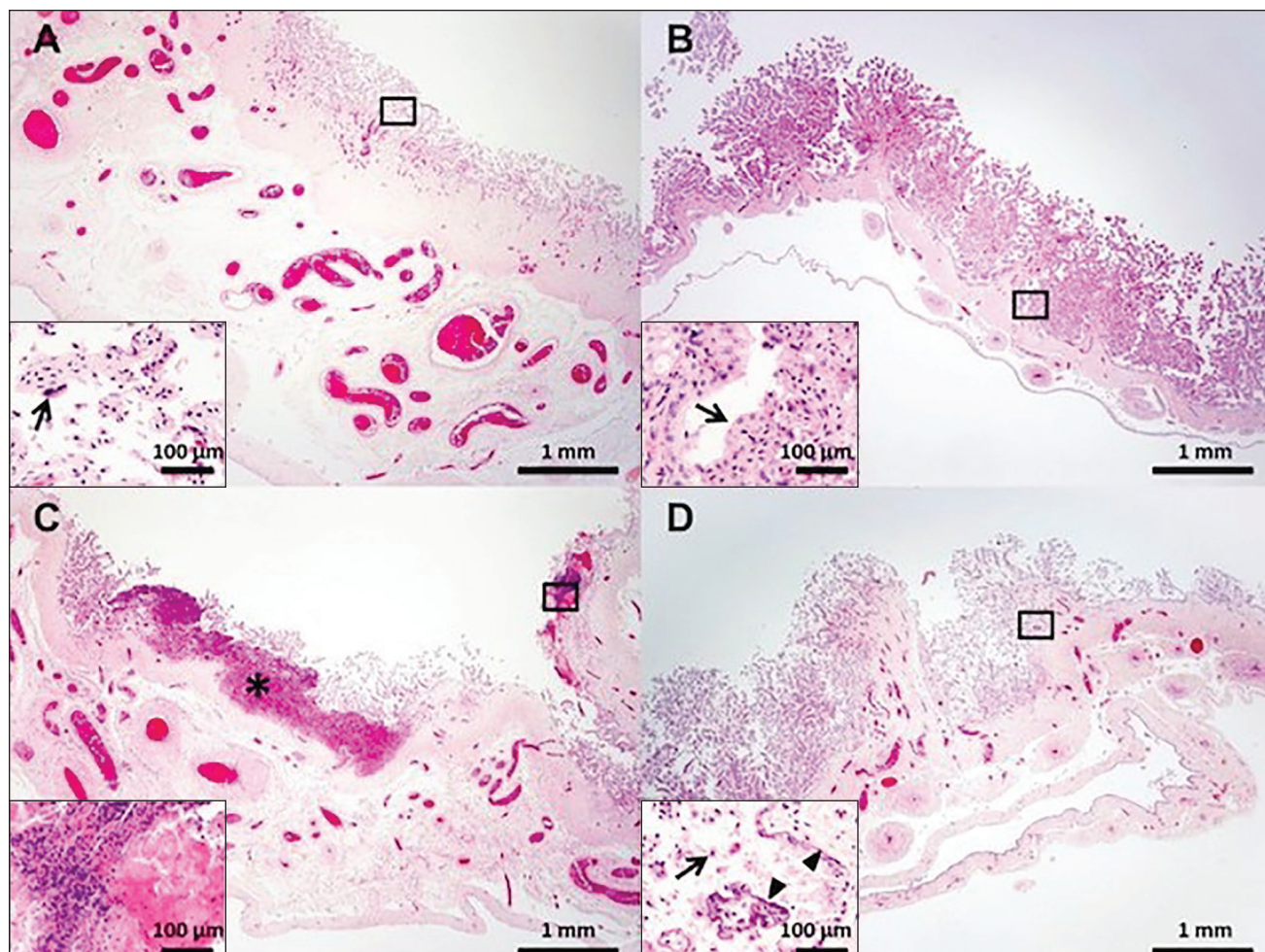


Figure 3. Photomicrographs of sections from multiple locations of the placenta (A, C, D), and a section from a normal placenta of another horse for comparison (B). A – Photomicrograph of a section of the gravid horn of the placenta showing that the stroma is thickened up to 7 times normal thickness by edema and congested blood vessels in the stroma. Diffusely the chorionic villi are short. Hematoxylin & eosin (H&E); Bar = 1 mm. Inset – Higher magnification of the area in the rectangle in A showing trophoblasts lining the chorionic villi are necrotic, characterized by multinucleation with shrunken, dense cytoplasm (arrow). Villi are often naked with trophoblasts sloughed. These changes are consistent with placental degeneration. H&E; Bar = 100 µm. B – Photomicrograph of a section from the body of a normal placenta of another horse for comparison. The stroma is relatively thin without edema and blood vessels are not congested. The chorionic villi are tall with long papillae. H&E; Bar = 1 mm. Inset – Higher magnification of the area in the rectangle in B showing trophoblast line the chorionic villi (arrow). H&E; Bar = 100 µm. C – Photomicrograph of a section of the cervical star of the chorioallantois. The stroma at the base of the chorionic villi is locally extensively expanded by hemorrhage (asterisk). Locally extensively replacing the chorionic villi are several small to moderate aggregates of cellular debris (rectangle). H&E; Bar = 1 mm. Inset – Higher magnification of the area in the rectangle in C showing the cellular debris is composed of dense eosinophilic cellular material admixed with degenerate neutrophils. H&E; Bar = 100 µm. D – Photomicrograph of a section of the non-gravid horn. The non-gravid horn in this section is less affected with degeneration of the trophoblasts and mild blood vessel congestion. H&E; Bar = 1 mm. Inset – Higher magnification of the area in the rectangle in D showing the degeneration of the trophoblasts as sloughed cellular debris (arrow) and occasional mineralization of the basement membrane of the villi which is incidental in this case (arrowhead). H&E; Bar = 100 µm.

was resected. The foal recovered well from the second surgery. Blood abnormalities and clinical conditions improved over the next few days, and the foal became clinically stable.

The mare and foal were discharged to the care of the owner at 13 d post-partum. A breeding soundness examination was performed 34 d post-partum. The uterine biopsy revealed mild to moderate, multifocal, lymphoplasmacytic and neutrophilic endometritis with mild cystic glandular dilation and mild fibrotic nesting. The biopsy was graded IIA based on the grading system of Kenny and Doig (22), which carries a prognosis of 50% to 80% of the mare carrying a foal to term. Uterine culture

revealed no growth, and there was evidence of mild inflammation (< 2 neutrophils per 400× field) on cytology. The mare was bred and diagnosed pregnant at the 14-day pregnancy check. Both mare and foal were reported to be healthy at the time of manuscript submission (6 mo post-partum).

The placenta, which weighed 6.2 kg (11.5% of the foal's birth weight), was submitted for gross and histopathological examination, and for polymerase chain reaction (PCR) and immunohistochemical testing for *Leptospira*. Four irregular well-demarcated, red, and slightly thickened areas affecting approximately 30% of the chorioallantoic surface, involving

the gravid horn, non-gravid and placental body, were found. These areas were consistent with hemorrhage, congestion, and edema which are changes commonly found in both normal and abnormal equine post-partum placentas. No gross abnormalities were observed at the cervical star or umbilical cord. The amnion appeared thickened, but no further abnormalities were identified.

Histopathologic findings (Figure 3) were as follows. Multifocally, the allantoic stroma of the chorioallantois of the gravid and non-gravid horn areas, the body and the cervical star were moderately to markedly thickened by edema and congested blood vessels, and multifocal mild to moderate acute hemorrhage. The chorionic villi were variably shortened. The trophoblasts lining the chorionic villi were often necrotic and sloughed. Several small aggregates of degenerate neutrophils admixed with cellular debris (necrosuppurative placentitis) were found focally on the surface at the cervical star. The epithelial cells of the allantoic membrane lining of the umbilical cord and placenta were often hypertrophied. The amnion was multifocally thickened up to 5 times normal by edema. Immunohistochemistry and PCR of placenta tissues were negative for *Leptospira*. There was no histopathological evidence of umbilical cord torsion.

Discussion

Successful medical management of a hydramnion resulting in birth of a live foal has been previously reported (23). However, to the authors' knowledge, this is the first report of a foal surviving long-term from a hydrallantois pregnancy. The presumptive diagnosis in this case was made on the basis of a history of abnormal abdominal enlargement, and diagnostic findings of abnormally increased uterine size and fetal fluid, as identified on transrectal palpation and transabdominal ultrasound examination (12). Transabdominal ultrasound revealed an allantoic fluid depth in excess of 18 cm, which was highly suggestive of hydrallantois (14). Definitive diagnosis was achieved through the gradual drainage of more than 55 L of allantoic fluid before fetal extraction. There did not seem to be excessive amniotic fluid subjectively; concurrent hydramnion was deemed unlikely although transabdominal ultrasound evaluation of fluid depth would have been valuable.

In the current case, there was 1 focal region of placentitis at the cervical star evident on histopathology. The inflammation in this area appeared to be acute and was not considered likely to result in placental dysfunction severe enough to cause the hydrallantois. The histopathological abnormalities of thickened stroma shortened chorionic villi, and necrotic trophoblastic cells suggest placental degeneration. This presumptive placental degeneration was not deemed sufficiently diffuse to be the likely primary cause of the hydrallantois but was considered more likely secondary to the increased fluid within the allantoic cavity. Similarly, the hypertrophied allantoic epithelial membrane was considered most likely secondary to increased pressure exerted by the excessive fluid associated with the hydrallantois. Villous atrophy, caused by necrosis of the chorionic villi and hyperplasia of the chorionic epithelium has, however, been associated with placentitis (24,25). Finally, villous atrophy has been associated with endometrial fibrosis (26). In this case, the uterine biopsy

results did not reveal significant fibrosis to cause the placental villous atrophy.

Also important to consider in interpretation of the histopathology in this case, is the potential effect of placental retention for 10 h. This may have significantly contributed to the histopathological changes observed, in particular the necrotic trophoblastic cells lining the chorionic villi. Other changes reported, such as shortened villi, and thickening due to edema and congestion/hemorrhage, could be a normal variation and a direct result of parturition/dystocia, respectively. In summary, the cause of the hydrallantois is not evident in the sections of chorioallantoic examined.

Leptospirosis was ruled out as a possible cause of the hydrallantois based on placental histopathology, negative PCR of blood and placenta samples, and on negative IHC testing of the placenta. Furthermore, no systemic signs of leptospirosis were present. Initially, the history of recent vaccination for leptospirosis was not reported by the owner. As a result, serology using microscopic agglutination testing was performed, with a plan to analyze paired samples. As it became apparent that a recent vaccination had been performed, the results were considered consistent with recent vaccination, and no second sample was obtained for paired analysis.

The presentation of the hydrallantois at the term of pregnancy in this mare and the course of the disease was atypical. The usual presentation of hydrallantois is a sudden increase in allantoic fluid leading to marked abdominal distension over a few days (12). The hydrallantois in this mare could have developed acutely earlier in gestation but gone unnoticed, despite the fact that the mare resided at a well-managed breeding farm, under the monitoring of a manager with previous experience of hydrops cases. However, no objective measurements of abdominal circumference were performed before presentation and, therefore, the onset could not be determined.

Typically, in hydrallantois cases, recommendations for termination of pregnancy and controlled drainage are made, along with assisted delivery, followed by humane euthanasia of the premature foal. Nevertheless, there are anecdotal reports of partial controlled drainage and attempts at maintenance of pregnancy. The late stage of gestation of this case and the resultant potentially viable fetus, along with the mild-moderate severity of this hydropsical mare affected the decision-making process, including the decision to delay drainage and delivery until the following day.

Serial electrolyte concentrations from mammary gland secretions are a well-established means to predict parturition in mares (27,28). The usefulness of mammary gland secretions is significantly reduced when predicting parturition in mares with placentitis (29). The mammary secretion calcium levels in these mares tend to be precociously increased. The observed thickened amnion *via* ultrasound raised suspicion of placentitis (amnionitis) in this case and, as a result, mammary secretions were not deemed to be a reliable predictor of readiness for parturition. However, there was no evidence of amnionitis histologically.

The decision to deliver the foal after 45 min drainage in comparison to other reported longer procedures (8,14) was based on the fact that fetal activity had increased. This was

interpreted as potential fetal stress, possibly due to placental separation/compromise, although this is a subjective assessment. Measurement of fetal heart rate was not performed to confirm this. In addition, after this time period, sufficient fluid had been expelled to bring the fetus consistently close to the birth canal, making delivery easier.

The mare in this case suffered a brief period of presumptive hypotension following fetal extraction, evidenced by a transient episode of agitation, muscle fasciculations, tachycardia, and mucous membrane pallor. This is consistent with a report by Slovis et al (14) who described 90% of mares with hydrops undergoing controlled drainage of allantoic fluid exhibiting signs of hypotensive shock during the procedure, as a result of third space syndrome.

Additional diagnostics that could have been considered in this case include allantocentesis and amniocentesis to determine, pre-drainage, a case of hydramnion or hydrallantois. Allantocentesis/amniocentesis has been described as a clinical tool in differentiating hydrallantois/hydramnion in other cases (9,23,30,31). However, unlike in cows (9), there are no large-scale studies comparing fluid composition in hydrops and normal pregnancies in mares. Therefore, the usefulness of this technique was limited and considered unlikely to change the planned course of treatment. The biochemical composition of the fluid obtained during drainage (Table 1) in this case was consistent with other reports of late gestation fluids. Normal allantoic fluid more closely resembles urine, with higher creatinine, potassium, and phosphorus, and lower sodium and chloride than amniotic fluid (9,31). In this case the chloride was in fact higher in the allantoic fluid, and it is uncertain if this value indicates perturbation.

The likelihood of recurrence of the condition at the next pregnancy remains unknown. Waelchli and Ehrensperger (32) report the condition occurring in 2 mares bred by the same stallion, but a hereditary link was not identified. There are multiple reports of successful breeding after a hydrops pregnancy in mares (5,6,33). As a result, future pregnancies in this mare have been recommended to be monitored closely.

Urachal and bladder abnormalities are well-reported causes of uroperitoneum in neonatal foals (34). A link between hydrops conditions and urachal/bladder abnormalities in the fetus has not been reported in the literature in equine or other species. In addition, iatrogenic rupture can occur secondary to repeated manual lifting of recumbent foals and rupture can also occur secondary to micturition delays due to recumbency. No congenital defects previously reported with equine hydrallantois pregnancies such as brachygnathia superior (12) were present in this foal.

This case provides important evidence that successful management and outcome for both mare and foal may be achieved in a hydrallantois pregnancy presented at term. The current recommendations for most cases of hydrops are generally termination of pregnancy *via* gradual fetal fluid drainage and fetal extraction at the time of diagnosis, based on risk to the mare and low foal survival rates. This case provides evidence that may assist decision-making for alternative management strategies in other clinically stable, late gestation mares diagnosed with mild to moderate hydrallantois.

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